

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-30 (Cancelled).

31. (New) A method for populating and soldering a circuit board having a first side and a second side and at least one wired, electrical component ("THT-component") having at least one connection wire or connection pin and a housing or casing thermally critical for conventional, automatic soldering technology, comprising the steps of:

populating the THT-component on the first side of the circuit board, with the connection wire or pin stuck from the first side through a hole and emerging on the second side of the circuit board in the area of a soldering contact surface printed with a solder paste; and

placing the circuit board so populated into a reflow oven for the soldering, wherein:

the first side populated with the THT-component is at least partially, essentially shielded from a heat or energy feed effecting the soldering.

32. (New) A method for populating and soldering a circuit board having a first side and a second side and at least one wired, electrical component ("THT-component") having at least one connection wire or connection pin and a housing or casing thermally critical for conventional, automatic soldering technology, comprising the steps of:

populating the THT-component on the first side of the circuit board, with the connection wire or pin stuck from the first side through a hole and emerging on the second side of the circuit board in the area of a soldering contact surface printed with a solder paste; and

placing the circuit board so populated into a reflow oven for the soldering, wherein:

the first side populated with the THT-component is thermally separated from the heat or energy feed acting on the second side of the circuit board for the soldering and a temperature difference of at least 28°C can be achieved between the first side and the second side.

33. (New) The method as claimed in claim 31, further comprising the step of: applying solder paste to solder contact surfaces provided on the second side of the circuit board for a populating of the second side of the circuit board with at least one SMD-component, wherein:

following populating of the second side of the circuit board with the SMD-component, it is soldered, together with the connection wire of the THT-component, in the reflow oven.

34. (New) The method as claimed in claim 32, further comprising the step of: applying solder paste to solder contact surfaces provided on the second side of the circuit board for a populating of the second side of the circuit board with at least one SMD-component, wherein:

following populating of the second side of the circuit board with the SMD-component, it is soldered, together with the connection wire of the THT-component, in the reflow oven.

35. (New) The method as claimed in claims 31, wherein:
the first side of the circuit board is populated with at least one SMD-component.

36. (New) The method as claimed in claims 32, wherein:
the first side of the circuit board is populated with at least one SMD-component.

37. (New) The method as claimed in claim 35, further comprising the steps of:
printing of solder paste on the first side of the circuit board;
populating of the first side with SMD-components;
soldering the SMD-components of the first side in the reflow oven;

populating of the first side with at least one THT-component;
printing of solder paste on the second side;
populating the second side with SMD-components, and
soldering SMD-components of the second side and the one or more
THT-components in the reflow oven.

38. (New) The method as claimed in claim 37, wherein:
dressing the connection wires of the THT components before the printing of the
solder paste on the second side of the circuit board.

39. (New) The method as claimed in claim 38, wherein:
the connection wires of the THT-components are clinched or bent in some other
way, such as being crimped, such that they clamp the one or more affected
THT-components on the circuit board.

40. (New) The method as claimed in claim 38, wherein:
the connection wires are shortened before the populating of the
THT-components such that they extend only slightly from the circuit board after the
populating.

41. (New) The method as claimed in claim 37, wherein:
before the populating of the THT-components on the locations to be populated,
adhesive for securing the THT-components on the circuit board is applied.

42. (New) The method as claimed in claim 37, wherein:
on the circuit board and/or on at least one of the THT-components, at least one
securement aid is provided, which secures the affected THT-component mechanically
on the circuit board following the populating.

43. (New) The method as claimed in claim 42, wherein:
the securement aid includes a snap-in mechanism.

44. (New) The method as claimed in claim 35, further comprising the steps:
printing of solder paste on the first side;
applying adhesive on the locations of the first side which are to be populated with
THT-components;
populating the first side with SMD-components;
populating the first side with THT-components;
soldering the SMD-components of the first side in the reflow oven;
printing solder paste on the second side;
populating the second side with SMD-components, and
soldering the components of the second side and the THT-components in the
reflow oven.

45. (New) The method as claimed in claim 44, wherein:
before the printing of the solder paste on the second side, connection wires of
the THT-components are so dressed that they do not protrude beyond the surface of
the circuit board.

46. (New) The method as claimed in claims 31, wherein:
at least one of the sides of the circuit board is populated with at least one
pin-in-hole component (PIH-component).

47. (New) The method as claimed in claim 31, wherein:
the first side of the circuit board populated with the one or more
THT-components is shielded, thermally separated, in the reflow oven essentially by the
circuit board itself from the heat or energy feed acting on the second side for the
soldering.

48. (New) The method as claimed in claim 47, wherein:
in the case of an essentially horizontal arrangement of the circuit board during
travel through the reflow oven for the soldering of the THT-components or the

THT-component, these or this, as the case may be, are located underneath the circuit board.

49. (New) The method as claimed in claim 31, wherein:
the first side of the circuit board populated with the one or more THT-components is cooled in the reflow oven.

50. (New) The method as claimed in claim 31, wherein:
in the reflow oven, those areas of the circuit board, which have a tendency, because of a circuit board layout, to have an above-average take-up of heat energy, are covered with a covering that blocks or delays the uptake of heat energy.

51. (New) The method as claimed in claim 50, wherein:
the covering is made of a non-metallic material.

52. (New) The method as claimed in claim 31, wherein:
where an above-average heating by the heat or energy feed effecting the soldering in the reflow oven is desired in a region of the circuit board, this region of the circuit board is covered with a covering improving a heat energy uptake.

53. (New) The method as claimed in claim 52, wherein:
the covering is made of a metallic material.

54. (New) A reflow oven for soldering a circuit board having a first side and a second side and at least one wired, electrical component ("THT-component") having at least one connection wire or connection pin and a housing or casing thermally critical for conventional, automatic soldering technology, comprising:

means to shield the first side of the circuit board populated with the THT-component during soldering, in the area of a solder contact surface printed with a solder paste, from a heat or energy feed effecting the soldering of the connection wire of the THT-component emerging at said surface.

55. (New) A reflow oven for soldering a circuit board having a first side and a second side and at least one wired, electrical component ("THT-component") having at least one connection wire or connection pin and a housing or casing thermally critical for conventional, automatic soldering technology, comprising:

means to shield the first side of the circuit board populated with the THT-component is thermally separated during the soldering, in the area of a solder contact surface printed with a solder paste, from a heat or energy feed effecting the soldering of the connection wire of the THT-component emerging at said surface, wherein:

a temperature difference between the first and second sides of at least 28° C is achievable by suitable means.

56. (New) A reflow oven as claimed in one of the claims 54, wherein:

the circuit board is arranged such that, during its transport through the reflow oven, the first side of the circuit board populated with the one or more THT-components is shielded, respectively thermally separated, essentially by the circuit board itself from the heat or energy feed acting on the second side of the circuit board for the soldering.

57. (New) A reflow oven as claimed in one of the claims 55, wherein:

the circuit board is arranged such that, during its transport through the reflow oven, the first side of the circuit board populated with the one or more THT-components is shielded, respectively thermally separated, essentially by the circuit board itself from the heat or energy feed acting on the second side of the circuit board for the soldering.

58. (New) The reflow oven as claimed in claim 54, further comprising:

a cooling apparatus provided therein, by means of which the side of the circuit board populated with the one or more THT-components is cooled during the soldering operation.

59. (New) The reflow oven as claimed in claim 55, further comprising:
a cooling apparatus provided therein, by means of which the side of the circuit board populated with the one or more THT-components is cooled during the soldering operation.

60. (New) The reflow oven as claimed in claim 51, further comprising:
at least one infrared radiation source, which delivers heat energy effecting the soldering.

61. (New) A circuit board for the method as claimed in claim 31, such that it makes possible locally pre-determinable areas of above-average heat energy uptake in the case of heat energy acting externally onto the circuit board.

62. (New) The circuit board as claimed in claim 61, wherein:
an above-average amount of copper is provided in the areas with desired above-average heat energy uptake.

63. (New) The circuit board, as claimed in claim 61, wherein:
it is a multi-layer circuit board having at least one inner layer, which is so designed, respectively executed, that, in the areas of desired, above-average heat energy uptake, there is, in each case, a large-area, metallic and/or electrically conducting part.

64. (New) The circuit board as claimed in claim 31, such that a below-average copper portion is provided in the areas where a below-average heat energy uptake is desired.